

# Environmental Quality Division's restoration program gains momentum

By Joe Carriero

LINDA CANZANELLI, superintendent at Biscayne National Park (Florida) for more than three years, has grown accustomed to vessel groundings at the National Park System's largest marine park. Canzanelli believes that the approximately 200 groundings reported each year represent only about 10% of the actual incidents on Biscayne's 165,000 submerged acres (66,825 ha). Unfortunately, most of the groundings occur on the park's vital seagrass habitat. "I think injuries to our seagrass beds will continue to increase," says Canzanelli. "As seagrass is stressed by natural changes and by human-created threats like pollution, sedimentation, and groundings, we are going to see a continual decline in this important ecosystem."

When motorized vessels run aground, propellers trench the bottom, uprooting seagrass, removing rhizomes, and displacing sediment. And when the grounded vessels attempt to power off, they often create deep blowholes. Such injuries are a concern because seagrasses at Biscayne (turtle grass—*Thalassia testudinum*—is the dominant species) provide many important benefits to the marine environment, including food and habitat for fish, invertebrates, birds, and endangered species like the West Indian manatee and several species of sea turtles.

A few years ago, resources injured at Biscayne and other parks would have been left to deteriorate. But now the National Park Service can use the Park System Resource Protection Act (16 U.S.C. 1911), passed in 1990, to pursue restoration to pre-injury conditions. Recently, Biscayne initiated seagrass restoration at three vessel grounding sites and Canzanelli is optimistic. She says, "My expectation is that the seagrass restoration projects will allow some of Biscayne's critical seagrass areas to survive."

An increasing number of restoration projects are now addressing injured resources across the National Park System. Parks are working with the Environmental Response, Damage Assessment, and Restoration (ERDAR) program office, part of the NPS Environmental Quality Division, to restore or replace critical wildlife habitat subjected to encroachments, vegetation fouled by oil spills, and seagrass beds and coral reefs injured by groundings.

Dan Hamson, chief of the ERDAR Branch, is enthused about the number of restoration projects now under way. He calls the Park System Resource Protection Act "a critical new tool for resource managers." "The 1911 statute lets us recover costs from parties who injure park resources," says Hamson. "This includes the cost of the immediate response to an incident, of the damage assessment, and of the restoration of the resources. If restoration is not feasible, we can recover the cost of replacing the resources or acquiring equivalent resources as compensation." Since the program began in 1993, the ERDAR Branch has helped settle dozens of cases, resulting in the collection of more than \$16 million for restoration or replacement of injured resources.

The branch includes experts who manage different phases of the complex restoration cases. The Damage Assessment Unit, headed by

ERDAR



Healthy turtle grass (above), the most common seagrass species at Biscayne National Park, contrasts dramatically with areas disturbed by powerboats. Legislation passed in 1990 enables the National Park Service, through its Environmental Response, Damage Assessment, and Restoration program, to recover costs for restoring the damaged marine habitat. Current projects at the park include restoring trenches (right) caused by motorboat propellers, and blowholes (below) created when stranded vessels "power off" shallows.



Rick Dawson in Atlanta, gets involved soon after the park's initial response to an incident. This unit appoints a case officer to help assess resource injuries, estimate the cost of restoration actions, and then work with a Department of the Interior solicitor and a Department of Justice attorney to develop and present the National Park Service's damage claim. Sometimes settlements are reached through litigation, but more often through negotiations with responsible parties.

During the assessment phase, ERDAR's Economic Support Unit, headed by Bruce Peacock, evaluates the ecological and human use services lost because of injuries to the resources. Peacock, an economist stationed in Ft. Collins, Colorado, determines the compensation value

## George Dickison recognized for GIS contributions



The 2002 recipient of the Director's Award for Professional Excellence in Natural Resources is George Dickison, GIS and Information Resources Team Manager at the Alaska Support Office. As the leader of Alaska's GIS program, George had a vision to produce an integrated package of GIS

data, software tools, and data management procedures that would enable park staff to utilize GIS technology without requiring the assistance of GIS professionals, or as he puts it, "GIS in an other-duties-as-assigned atmosphere." Not only has he realized this vision for the Alaska parks, but also his team's software tools have become the National Park Service standard for the Inventory and Monitoring (I&M) Program and the fire management program.

When George joined the National Park Service 11 years ago, he assessed the GIS needs of the Alaska parks and refocused his team's efforts to meet those needs. He developed a creative approach for vegetation mapping that involved working with other agencies that had the same interests. Through partnerships with the I&M Program, FirePro Program, USGS EROS Alaska Field Office, Ducks Unlimited, the University of Alaska, and the National Wetlands Inventory, his team has completed more mapping in Alaska parks than has been accomplished in the rest of the National Park System combined.

The Alaska GIS team has won many awards, including the international ESRI Special Achievement Award as one of the outstanding GIS sites in the world. George and the GIS team have succeeded because they have built a program based on providing quality service to parks. According to George, "We have built a program, not a monument to a few talented individuals. Staff come and go. The measure of success is when you can survive staff turnover and continue to flourish with an ever-changing cast of characters. The Alaska program has done that. We have succeeded because we built a program based around quality service, a strong database focus, robust software development, and appropriate use of technology."

George was regional I&M coordinator for five years and his team now manages the Alaska I&M Program. He served on the national I&M steering committee, participating in the design of the program and contributing his much needed expertise to the huge challenge of developing data management strategies for the national program. He is active in natural resource management activities and also serves as chair of the Alaska Natural Resources Advisory Council. ■

of the lost resources either in dollars or in resource units such as acres of trees, square feet of sand beach, cubic meters of seagrass sediment, or numbers of organisms. The compensation value determined is added to the cost of primary restoration actions to make up the total restoration claim.

The final stages of the damage assessment and restoration process—restoration planning and implementation—have recently become more active. "More and more damage settlements are now being reached, and we are beginning to restore resources at more parks," says Tammy Whittington, manager of the Restoration Program Unit in Denver, which helps parks in planning and implementing restorations.

"The assessment and settlement phases are complex and time-consuming," says Whittington. "Settling a claim can take years. And then more planning is required before the actual physical restoration can occur. Most cases we get require not only a restoration plan but also National Environmental Policy Act compliance, public participation, and permits."

Nevertheless, Whittington and Hamson are encouraged by the number of new projects now in or entering the restoration phase. New initiatives include the restoration of tidal marshland at Golden Gate

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National Recreation Area (California), breakwater restoration at San Juan National Historic Site (Puerto Rico), dune reconstruction and habitat enhancement at Padre Island National Seashore (Texas), and shoreline stabilization and dock replacement projects at the USS Arizona Memorial Visitor Center (Hawaii).

The ERDAR program is also helping parks promote collaborative restoration efforts. One example is an ongoing series of workshops with the National Oceanic and Atmospheric Administration focusing on ways to better coordinate and collaborate on coral reef and seagrass restorations. This partnership is especially appealing to Canzanelli, who says, "The enhanced restoration program will significantly benefit Biscayne's vital coral reef and seagrass habitats." ■

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